

REMARKS

Double Patenting

Claims 1, 2 and 5 stand rejected under the judicially created doctrine of double patenting. In particular, the Examiner finds that claim 1 has identical subject matter to claim 1 of co-pending U.S. Application No. 09/807,772. Applicants respectfully disagree with this finding. The invention defined in the present claims is directed to a solid electrolyte for rechargeable cells that comprises an absorbent, an ion conductive liquid electrolyte, and an electrolyte film that comprises microporous structures. The invention claimed in the '772 application is directed to a solid electrolyte for rechargeable cells that comprises an absorbent in powder form, a polymer binder, and an ion conductive liquid electrolyte that is made into a film and dried to form an electrolyte film. The Examiner alleges that the electrolyte film claimed in the '772 application inherently possesses microporous structures. Applicants respectfully disagree with this statement. Neither the specification nor the claims of the '772 application disclose, teach, or allude to the possibility of forming microporous structures. Further, claim 1 of the '772 applications has been amended to now define the process by which the electrolyte is prepared. This process is disclosed nowhere in the present application. For these reasons, Applicants respectfully submit that the present claims are in fact directed to a different invention from the claims of the '772 application, and request the Examiner to withdraw this rejection.

Rejection under 35 U.S.C §103

Claims 1-6 and 8-9 stand rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Pat. No. 6,306,545 to Carlson et al. in view of U.S. Pat. No. 6,416,905 to Bronstert et al. and further in view of U.S. Pat. No. 5,573,872 to Shackle. In particular, the Examiner finds that Carlson discloses all claimed elements except for expressly disclosing the particle size of the absorbent powder and the amount of electrolyte added. Applicants are in respectfully disagreement with the Examiner's characterization of Carlson.

Carlson discloses a microporous pseudo-boehmite layer that may be used as a separator in a battery, and teaches that this layer may further include a binder. These two elements may be

compared to the absorbent in powder form and the polymer binder claimed in the present application, respectively. In claim 1, the absorbent is in powder form. Carlson uses a liquid mixture comprising a boehmite sol to prepare the microporous pseudo-boehmite layer. This is of significance because typically, when sol is used either alone or in a combination to coat a substrate and then be dried to form a film (such as in Carlson), the sol generates a solid, albeit porous, structure that certainly cannot be said to be "in powder form." Thus, the pseudo-boehmite of Carlson could not possibly be present in powder form, as per claim 1. This is only enforced by the fact that Carlson teaches that the pseudo-boehmite layer may be formed without a binder. Given that the boehmite sol is made into a microporous layer, it can be inferred that the process is based upon a sol-gel reaction to form the micropores, in which case a fair reading of Carlson is that "pseudo-boehmite" refers in fact to boehmite gel.

Furthermore, and in contrast, in claims 2-6 and 8-9, the absorbent is a constituent of the electrolyte film where it is immobilized by the polymer binder. Additionally, the claimed process is not based on a sol-gel reaction, and generates a separator with an entirely different structure from that of Carlson. Additionally, the electrolyte claimed herein requires the use of a solvent for the binder to form the mixture, which one skilled in the art will understand to mean that the absorbent remains in powder form after it is mixed with the binder. In contrast, Carlson teaches that a liquid medium may be employed, but does not mention anywhere that such liquid medium can include a solvent for the binder. On the contrary, Carlson teaches water, alcohols and glycols as possible liquid mediums and discloses a variety of resins that are insoluble in such liquid mediums as possible binders.

Applicants respectfully remind the Examiner of the requirements posited by MPEP 2143.03 that "[t]o establish *prima facie* obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974). All words in a claim must be considered in judging the patentability of that claim against the prior art. *In re Wilson*, 424 F.2d 1382, 1385, 165 USPQ 494, 496 (CCPA 1970)." (emphasis added) The Examiner has not made, and indeed cannot make, a *prima facie* showing that the cited art, alone or in combination, teaches all elements of claim 1. Applicants therefore submit that claim 1 is allowable and respectfully request the Examiner to reconsider and pass these claims to issue.

Claims 2-6 and 8-9 depend from claim 1. "If an independent claim is nonobvious under 35 U.S.C. 103, then any claim depending therefrom is nonobvious." *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988). Therefore, in light of the above discussion of claim 1, Applicant submits that claims 2-6 and 8-9 are also allowable.

With respect to claim 7, the Examiner opined that this claim is obvious in view of Carlson and further in view of U.S. Pat. No. 4,849,144 to McLoughlin. In particular, the Examiner found that Carlson discloses all claimed elements except for expressly disclosing an extraction step for exchanging a solvent with a non-solvent to form a microporous electrolyte film. However, as discussed above, Carlson does not in fact teach all other limitations of the claim. For instance, as detailed above, Carlson does not teach forming an electrolyte film using a binder and a solvent for the binder, and merely mentions that a binder may be optionally used. Thus, Carlson does not teach a solvent, and combining Carlson with McLoguhlin does not rectify this deficiency. Applicants thus respectfully submit that claim 7 is in fact novel and patentable over the cited art, and respectfully request the Examiner to allow this claim.

In view of the above, Applicants submit that the application is now in condition for allowance and respectfully urge the Examiner to pass this case to issue.

The Commissioner is authorized to charge any additional fees which may be required or credit overpayment to deposit account no. 12-0415. In particular, if this response is not timely filed, the Commissioner is authorized to treat this response as including a petition to extend the time period pursuant to 37 CFR 1.136(a) requesting an extension of time of the number of months necessary to make this response timely filed and the petition fee due in connection therewith may be charged to deposit account no. 12-0415.

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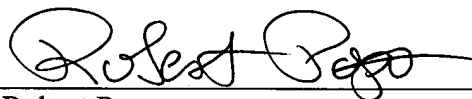


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Respectfully submitted,



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